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**United States
Department of
Agriculture**

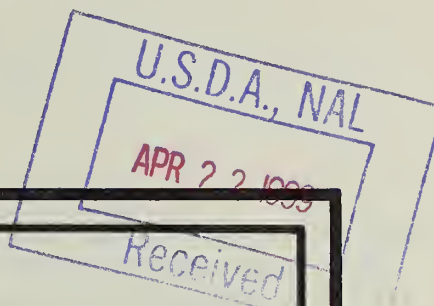


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**UNITED STATES
STANDARDS**

for grades of

FROZEN RHUBARB



EFFECTIVE AUGUST 15, 1945

First Issue

004 2 77A

This is the first issue of the United States Standards for Grades of Frozen Rhubarb. These standards are issued by the Department after careful consideration of all data and views submitted.

As in the case of other standards for processed fruits and vegetables, these standards are designed to serve as a convenient basis for sales, for establishing quality control programs, and for determining loan values. They will also serve as a basis for the inspection of this commodity by Federal inspection service, which is available for the inspection of other processed products as well.

The Department welcomes suggestions which might aid in improving these standards in future revisions. Comments may be submitted to, and copies of these standards obtained from:

Chief, Processed Products Standardization
and Inspection Branch
Fruit and Vegetable Division
Agricultural Marketing Service
United States Department of Agriculture
Washington 25, D. C.

TENTATIVE UNITED STATES STANDARDS FOR GRADES OF
FROZEN RHUBARB ¹

Effective August 15, 1945

DEFINITION

Frozen rhubarb is prepared from the properly developed, fresh stem of the rhubarb plant (*Rheum raphaniticum*); is trimmed, washed, and cut; and is frozen and stored at temperatures necessary for the preservation of the product.

TYPES OF FROZEN RHUBARB

CRIMSON type includes rhubarb that is predominantly pink-red in color and includes units that may be partially pale pink or darker in color.

GREEN type includes rhubarb that is predominantly green in color.

STYLES OF FROZEN RHUBARB

CUT rhubarb consists of stems that are cut transversely into units of approximately equal lengths. Rhubarb of this style may contain not more than 25 percent by weight of split units.

SPLIT rhubarb consists of cut units or whole stalks that are divided longitudinally. Rhubarb of this style contains more than 25 percent by weight of split units.

GRADES OF FROZEN RHUBARB

U. S. GRADE A or U. S. FANCY frozen rhubarb is rhubarb of similar varietal characteristics which is practically free from defects; possesses a normal flavor and odor; and is of such quality with respect to color and tenderness and texture as to score not less than 85 points when scored in accordance with the scoring system outlined herein.

U. S. GRADE B or U. S. CHOICE frozen rhubarb is rhubarb of similar varietal characteristics which possesses a reasonably uniform typical color; is reasonably free from defects; has a reasonably tender texture; possesses a normal flavor and odor; and scores not less than 70 points when scored in accordance with the scoring system outlined herein.

U. S. GRADE D or SUBSTANDARD frozen rhubarb is rhubarb that fails to meet the requirements of U. S. GRADE B or U. S. CHOICE.

NOTE: Compliance with the requirements of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act or with applicable state laws and regulations.

SUGAR OR SIRUP PACK

Frozen rhubarb is sometimes packed with added sugar in a definite ratio and such packs are designated by the amount of fruit to sugar; for example, "6 + 1" means that at the time of packing, one pound of sugar is added to six pounds of rhubarb.

ASCERTAINING THE GRADE

The grade of frozen rhubarb is determined immediately after complete thawing in unopened small packages or when the entire package is used as a sample; and samples drawn from large containers shall be graded immediately after thawing to the extent that the units may be separated easily.

The factors of color, tenderness and texture, and flavor and odor of frozen rhubarb are determined after cooking the rhubarb in gently boiling water in a covered container for six minutes (from the time the water boils after the rhubarb is added). If the frozen rhubarb is packed with sugar, 12 ounces of rhubarb to 5 ounces of water may be used in cooking; and, if the frozen rhubarb is packed without sugar, 12 ounces of rhubarb, 5 ounces of sugar, and 5 ounces of water may be used in cooking.

"Normal flavor and odor" means that the frozen rhubarb is free from objectionable or off flavors or objectionable odors of any kind.

The grade of frozen rhubarb may be ascertained by considering, in addition to the foregoing requirements, the following factors: Color, absence of defects, and tenderness and texture.

The relative importance of each factor has been expressed numerically on a scale of 100. The maximum number of points that may be given for each factor is:

	<u>POINTS</u>
I. Color - - - - -	10
II. Absence of defects - - - - -	30
III. Tenderness and Texture - - - - -	<u>60</u>
TOTAL SCORE	100

ASCERTAINING THE RATING FOR EACH FACTOR

The essential variations within each factor are so described that the value may be ascertained for each factor and expressed numerically. The numerical ranges within each factor are inclusive. For example, the range 8 to 10 means 8, 9, and 10.

I. COLOR -

- (A) To receive a score of 8 to 10 points the frozen rhubarb must possess a practically uniform typical color. "Practically uniform typical color" means that the rhubarb possesses a glossy appearance and that the color is characteristic of the variety and free from dull or grey color.
- (B) If the frozen rhubarb possesses a reasonably uniform typical color a score of 6 or 7 points may be given. "Reasonably uniform typical color" means that the rhubarb possesses a glossy appearance and that the color is characteristic of the variety and may possess a slightly dull or grey color that is not off color.
- (D) Frozen rhubarb that is definitely dull or grey, or otherwise off color for any reason may be given a score of 0 to 5 points and shall not be graded above U. S. GRADE D or SUBSTANDARD, regardless of the total score for the product.

II. ABSENCE OF DEFECTS - The factor of absence of defects refers to the degree of freedom from harmless extraneous material (such as leaves and stems from plant material other than from the rhubarb plant); from defective units such as root ends, leaf ends, ragged or irregular units, blemished or scarred units; from units that possess growth cracks or other abnormalities; and from units that are damaged by pathological, insect, or other similar injury.

"Root ends" are flattened, shelly, shallow units cut from the root end.

"Leaf ends" are the portions that fan out from the stalk and that include part of the lateral ribs or joints.

"Ragged or irregular units" are cut or split units that possess an outer layer or peel extending more than 1/4 inch beyond the inner portion of the unit; are cut or split units that possess ends of less than an approximate 45 degree angle; or are units of excessive lengths differing from the general length of cuts.

A unit damaged by "minor defects" is one that possesses root ends from which rough tissues have been removed; or that possess shallow, short, or light color growth cracks or other abnormalities that do not materially affect the appearance of the product.

A unit damaged by "major defects" is one that possesses root ends from which rough tissues have not been removed; that possesses leaf ends; that possesses deep, calloused,

or dark growth cracks or other abnormalities, or rust that materially affect the appearance of the product; or that is damaged by pathological, insect, or other similar injury.

- (A) To receive a score of 26 to 30 points the frozen rhubarb must be practically free from defects. "Practically free from defects" means that not more than a total of 15 percent by weight may be defective units (including "minor" and "major" defects), provided that not more than 5 percent by weight are damaged by "major" defects.
- (B) If the frozen rhubarb is reasonably free from defects, a score of 22 to 25 points may be given.. Frozen rhubarb that falls into this classification shall not be graded above U. S. GRADE B or U. S. CHOICE, regardless of the total score for the product. "Reasonably free from defects" means that not more than a total of 20 percent by weight may be defective units (including "minor" and "major" defects), provided that not more than 10 percent by weight are damaged by "major" defects.
- (D) Frozen rhubarb that fails to meet the requirements of paragraph (B) above may be given a score of 0 to 21 points and shall not be graded above U. S. GRADE D or SUBSTANDARD, regardless of the total score for the product.

The evaluation of the score for the factor of absence of defects may be determined from the following table which denotes the maximum allowances for the score indicated:

Classification	Score Points	Defective Units		
		TOTAL "Major" defects		
		(including "minor" and "major"):		
		Maximum by weight		
A	30	3%	including	1%
	29	6%	including	2%
	28	9%	including	3%
	27	12%	including	4%
	26	15%	including	5%
B	25	17%	including	7%
	24	18%	including	8%
	23	19%	including	9%
	22	20%	including	10%
D	21 or less	More than allowances permitted in B classification		

III. TENDERNESS AND TEXTURE -

- (A) To receive a score of 51 to 60 points the frozen rhubarb must possess a tender texture. "Tender texture" means that the rhubarb may contain not more than 5 percent by weight of units that are tough, spongy, or stringy and that differ noticeably in tenderness from the general texture of the product.
- (B) If the frozen rhubarb possesses a reasonably tender texture, a score of 42 to 50 points may be given. "Reasonably tender texture" means that the rhubarb may contain not more than 10 percent by weight of units that are tough, spongy, or stringy and that differ markedly in tenderness from the general texture of the product.
- (D) Frozen rhubarb that fails to meet the quality requirements of paragraph (B) above may be given a score of 0 to 41 points and shall not be graded above U. S. GRADE D or SUBSTANDARD, regardless of the total score for the product.

LOT INSPECTION AND CERTIFICATION

Ascertaining the grade of a lot. The grade of a lot of frozen rhubarb covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§ § 52.1 through 52.87; 22 F. R. 3535).

Issued: July 20, 1945

UNITED STATES DEPARTMENT OF AGRICULTURE

SCORE SHEET FOR FROZEN RHUBARB
(Effective August 15, 1945)

Size and kind of container										Average
Identification										
Label										
Net weight (in ounces)										Oz.
Type (Colors)										
Style										
Ratio of fruit - sugar										
Style of pack (sugar or sirup)										
Sirup density (Degrees Brix)										
F A C T O R S : Score Points										Average Score
I. COLOR : (A) 8-10 : 10 : (B) 6-7 : (D) 0-5* :										
II. ABSENCE OF DEFECTS : (A) 26-30 : 30 : (B) 22-25* : (D) 0-21* :										
III. TENDERNESS AND TEXTURE : (A) 51-60 : 60 : (B) 42-50 : (D) 0-41* :										
TOTAL SCORE : 100 :										
NORMAL FLAVOR AND ODOR										
GRADE										

(*) - Indicates limiting rule within classification.

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